

ROBERT GLENN HUBBARD
Curriculum Vitae

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Graduate School of Business
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PERSONAL DATA

Born: September 4, 1958, in Orlando, Florida.
Marital Status: Married to Constance Pond Hubbard;
one child, Robert Andrew Pond Hubbard

FIELDS OF SPECIALIZATION

Public Economics, Macroeconomics, Corporate Finance and Financial Institutions, Industrial Organization, Natural Resource Economics, Public Policy.

EDUCATION

Ph.D., Economics, Harvard University, May 1983.
Dissertation: *Three Essays on Government Debt and Asset Markets*, supervised by Benjamin M. Friedman, Jerry A. Hausman, and Martin S. Feldstein.

A.M., Economics, Harvard University, May 1981.

B.A., B.S., Economics, University of Central Florida, June 1979, *summa cum laude*.

HONORS AND AWARDS

Best Paper Award for Corporate Finance, Western Finance Association, 1998.

Exceptional Service Award, U.S. Department of the Treasury, 1992.

Distinguished Alumnus Award, University of Central Florida, 1991.

John M. Olin Fellowship, National Bureau of Economic Research, 1987-1988.

Teaching Commendations, Graduate School of Business, Columbia University.

Northwestern University Associated Student Government Teaching Awards, announced in 1985, 1986, and 1987.

Graduate Distinctions: National Science Foundation Fellowship, Alfred P. Sloan Foundation Fellowship.

Undergraduate Distinctions: National Merit Scholarship, National Society of Professional Engineers Award, Florida Society of Professional Engineers Award, National Council of Teachers of English Award, Omicron Delta Kappa, Financial Management Association Honor Society.

POSITIONS HELD

1994-present	Russell L. Carson Professor of Economics and Finance, Graduate School of Business, Columbia University.
1997-1998	Visiting Professor of Business Administration, Harvard Business School.
1994-1997	Senior Vice Dean, Graduate School of Business, Columbia University.
1988-1994	Professor of Economics and Finance, Graduate School of Business, Columbia University.
1995-present	Visiting Scholar and Director of Tax Policy Program, American Enterprise Institute.
1994	MCI Fellow, American Council for Capital Formation.
1994	John M. Olin Visiting Professor, Center for the Study of Economy and the State, University of Chicago.
1991-1993	Deputy Assistant Secretary (Tax Analysis), U.S. Department of the Treasury.
1987-1988	John M. Olin Fellow in residence at the National Bureau of Economic Research.
1983-1988	Assistant Professor of Economics, Northwestern University, with half-time research appointment in the Center for Urban Affairs and Policy Research.
1985	Visiting Scholar, Center for Business and Government, John F. Kennedy School of Government, Harvard University.
1981-1983	Teaching Fellow (Department of Economics) and Resident Tutor in Economics (Dunster House), Harvard University.

PROFESSIONAL ACTIVITIES

1987-present	Research Associate, National Bureau of Economic Research (Monetary Economics, Corporate Finance, Public Economics, Economic Fluctuations, Industrial Organization).
1997-present	Member, COSSA-Liaison Committee, American Economic Association.
1995-present	Member, Board of Academic Consultants, American Law Institute.
1993-present	Panel of Economic Advisors, Federal Reserve Bank of New York.
1993-present	Board of Advisors, Institutional Investor Project, School of Law, Columbia University.
1997	Member, Grants Panel for Integrative Graduate Education and Research Training Program, National Science Foundation
1994-1996	Member, Economics Grants Panel, National Science Foundation.
1993-1996	Member, Federal Taxation and Finance Committee, National Tax Association.

- 1990-1995 Co-organized research program on International Aspects of Taxation at the National Bureau of Economic Research, Cambridge, Massachusetts.
- 1995 Member, Program Committee, American Economic Association Meeting
- 1983-1987 Faculty Research Fellow, National Bureau of Economic Research.
- 1983-1986 Adjunct Faculty Research Fellow, Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University, Cambridge, Massachusetts.
- 1986, 1988, 1994 Member of the Brookings Panel on Economic Activity.
- 1985, 1987 Special guest of the Brookings Panel on Economic Activity.
- 1990-1991 Organized research program on Environmental Economics and Public Policy at the National Bureau of Economic Research, Cambridge, Massachusetts.
- 1988-1990 Co-organized research program on Dynamic Models of Firms and Industries at the National Bureau of Economic Research, Cambridge, Massachusetts.
- 1985-1989 Organized research program and workshops on contracting in financial markets at the Summer Institute, National Bureau of Economic Research, Cambridge, Massachusetts.
- 1988 Organized Economic Fluctuations program on Industrial Economics and Macroeconomics, National Bureau of Economic Research, Stanford, California.
- 1986-1988 Organized research program and workshop on links between macroeconomics and industrial organization at the Summer Institute, National Bureau of Economic Research, Cambridge, Massachusetts.
- 1991 Member, Program Committee, Econometric Society Winter Meetings.
- 1982-1983 Member, Energy Modeling Forum VII Study Group, Stanford University, Stanford, California.
- 1981-present Consultant on research projects with private corporations and government and international agencies, including the Internal Revenue Service, Social Security Administration, U.S. Department of Energy, U.S. Department of State, U.S. Department of Treasury, and U.S. International Trade Commission; National Science Foundation; The World Bank; Board of Governors of the Federal Reserve System; Federal Reserve Bank of New York; Congressional Budget Office.
- Member: American Economic Association, American Finance Association, Association for Public Policy and Management, Econometric Society, International Association of Energy Economists, National Tax Association, the Royal Economic Society, and the Institute for Management Science.

Referee: *American Economic Review*; *Canadian Journal of Economics*; *Columbia Journal of World Business*; *Econometrica*; *Economic Journal*; *Energy Economics*; *Energy Journal*; *International Finance*; *International Taxation*; *Journal of Business*; *Journal of Business and Economic Statistics*; *Journal of Economic History*; *Journal of Economic Literature*; *Journal of Finance*; *Journal of Financial*

Economics; Journal of Financial Intermediation; Journal of Financial Services Research; Journal of Industrial Economics; Journal of International Money and Finance; Journal of Law and Economics; Journal of Macroeconomics; Journal of Money, Credit, and Banking; Journal of Monetary Economics; Journal of Political Economy; Journal of Public Economics; Journal of Regulatory Economics; Journal of Small Business Finance; Management Science; National Tax Journal; Quarterly Journal of Economics; Quarterly Review of Economics and Finance; RAND Journal of Economics; Review of Economic Dynamics; Review of Economic Studies; Review of Economics and Statistics; Review of Financial Economics; Scandinavian Journal of Economics; Southern Economic Journal; National Science Foundation; C.V. Starr Center for Applied Economics (New York University); Addison-Wesley Publishing Company; Ballinger Press; Cambridge University Press; Harvard Business School Press; MIT Press; W.W. Norton; Oxford University Press.

Associate Editor: *Federal Reserve Bank of New York Economic Policy Review; Journal of Small Business Finance; International Finance; International Tax and Public Finance; National Tax Journal.*

Former Associate Editor: *Journal of Industrial Economics*

PUBLICATIONS AND PAPERS

Edited Volumes

Effects of Taxation on Multinational Corporations (with M. Feldstein and J.R. Hines), Chicago: University of Chicago Press, 1995.

Taxing Multinational Corporations (with M. Feldstein and J. R. Hines), Chicago: University of Chicago Press, 1995.

Studies in International Taxation (with A. Giovannini and J. B. Slemrod), Chicago: University of Chicago Press, 1993.

Financial Markets and Financial Crises, Chicago: University of Chicago Press, 1991.

Asymmetric Information, Corporate Finance, and Investment, Chicago: University of Chicago Press, 1990.

Textbook

Money, the Financial System, and the Economy, Reading: Addison-Wesley Publishing Company, 1st ed., 1994; 2nd ed., 1997.

Publications

Articles

“Are Investment Incentives Blunted by Changes in Prices of Capital Goods?: International Evidence” (with K.A. Hassett), *International Finance*, forthcoming.

“A Reexamination of the Conglomerate Merger Wave in the 1960s” (with D. Palia), *Journal of Finance*, forthcoming.

- "Capital-Market Imperfections and Investment," *Journal of Economic Literature* 36 (March 1998): 193-225.
- "Inflation and the User Cost of Capital: Does Inflation Still Matter?" (with D. Cohen and K.A. Hassett), in M. Feldstein, ed., *The Costs and Benefits of Achieving Price Stability*, Chicago: University of Chicago Press, 1998.
- "Fundamental Tax Reform and Corporate Financial Policy" (with W.M. Gentry), in J.M. Poterba, ed., *Tax Policy and the Economy*, volume 12, Cambridge: MIT Press, 1998.
- "Distributional Implications of Introducing a Broad-Based Consumption Tax" (with W.M. Gentry), in J.M. Poterba, ed., *Tax Policy and the Economy*, volume 11, Cambridge: MIT Press, 1997.
- "How Different Are Income and Consumption Taxes?," *American Economic Review* 87 (May 1997): 138-142.
- "Tax Policy and Investment" (with K.A. Hassett), in A.J. Auerbach, ed., *Fiscal Policy: Lessons from Economic Research*, Cambridge: MIT Press, 1997.
- "Assessing the Effectiveness of Saving Incentives" (with J. Skinner), *Journal of Economic Perspectives* 10 (Fall 1996): 73-90.
- "The Political Economy of Branching Restrictions and Deposit Insurance: A Model of Monopolistic Competition Among Small and Large Banks" (with N. Economides and D. Palia), *Journal of Law and Economics* 39 (October 1996): 667-704.
- "Tax Reforms and Investment: A Cross-Country Comparison" (with J.G. Cummins and K.A. Hassett), *Journal of Public Economics* 62 (1996): 237-273.
- "Benefits of Control, Managerial Ownership, and the Stock Returns of Acquiring Firms" (with D. Palia), *RAND Journal of Economics* 26 (Winter 1995): 782-792.
- "Executive Pay and Performance: Evidence from the U.S. Banking Industry" (with D. Palia), *Journal of Financial Economics* 39 (1995): 105-130.
- "Tax Policy, Internal Finance, and Investment: Evidence from the Undistributed Profits Tax of 1936-1937" (with C. Calomiris), *Journal of Business* 68 (October 1995): 443-482.
- "A Reconsideration of Investment Behavior Using Tax Reforms as Natural Experiments" (with J.G. Cummins and K.A. Hassett), *Brookings Papers on Economic Activity* (1994:2): 1-59.
- "Precautionary Saving and Social Insurance" (with J. Skinner and S. Zeldes), *Journal of Political Economy* 105 (April 1995): 360-399.
- "Expanding the Life-Cycle Model: Precautionary Saving and Public Policy" (with J. Skinner and S. Zeldes), *American Economic Review* 84 (May 1994): 174-179.
- "The Tax Sensitivity of Foreign Direct Investment: Evidence from Firm-Level Panel Data" (with J. Cummins), in M. Feldstein, J.R. Hines, and R.G. Hubbard, eds., *Effects of Taxation on Multinational Corporations*, Chicago: University of Chicago Press, 1995.

"International Adjustment Under the Classical Gold Standard: Evidence for the U.S. and Britain, 1879-1914" (with C. Calomiris), in T. Bauoumi, B. Eichengreen, and M. Taylor, eds., *Modern Perspectives on the Gold Standard*, Cambridge: Cambridge University Press, 1995.

"Internal Finance and Firm-Level Investment" (with A. Kashyap and T. Whited), *Journal of Money, Credit, and Banking* 27 (August 1995): 683-701.

"Do Tax Reforms Affect Investment?" (with J.G. Cummins and K.A. Hassett), in J.M. Poterba, ed., *Tax Policy and the Economy*, vol. 9, Cambridge: MIT Press, 1995.

"The Importance of Precautionary Motives for Explaining Individual and Aggregate Saving" (with J. Skinner and S. Zeldes), *Carnegie-Rochester Conference Series on Public Policy* 40 (June 1994): 59-126.

"Corporate Financial Policy, Taxation, and Macroeconomic Risk" (with M. Gertler), *RAND Journal of Economics* 24 (Summer 1993): 286-303.

"Internal Net Worth and the Investment Process: An Application to U.S. Agriculture" (with A. Kashyap), *Journal of Political Economy* 100 (June 1992): 506-534.

"Long-Term Contracting and Multiple-Price Systems" (with R. Weiner), *Journal of Business* 65 (April 1992): 177-198.

"Efficient Contracting and Market Power: Evidence from the U.S. Natural Gas Industry" (with R. Weiner), *Journal of Law and Economics* 34 (April 1991): 25-67.

"Interest Rate Differentials, Credit Constraints, and Investment Fluctuations" (with M. Gertler and A. Kashyap), in R.G. Hubbard, ed., *Financial Markets and Financial Crises*, Chicago: University of Chicago Press, 1991.

"Taxation, Corporate Capital Structure, and Financial Distress" (with M. Gertler), in L.H. Summers, ed., *Tax Policy and the Economy*, volume 4, Cambridge: MIT Press, 1990.

"Firm Heterogeneity, Internal Finance, and Credit Rationing" (with C. Calomiris), *Economic Journal* 100 (March 1990): 90-104.

"Coming Home to America: Dividend Repatriations in U.S. Multinationals" (with J. Hines), in A. Razin and J.B. Slemrod, eds., *Taxation in the Global Economy*, Chicago: University of Chicago Press, 1990.

"Price Flexibility, Credit Availability, and Economic Fluctuations: Evidence from the U.S., 1894-1909" (with C. Calomiris), *Quarterly Journal of Economics* 104 (August 1989): 429-452.

"Financial Factors in Business Fluctuations" (with M. Gertler), in Federal Reserve Bank of Kansas City, *Financial Market Volatility--Causes, Consequences, and Policy Responses*, 1989.

"Contracting and Price Adjustment in Commodity Markets: Evidence from Copper and Oil" (with R. Weiner), *Review of Economics and Statistics* 71 (February 1989): 80-89.

"Financing Constraints and Corporate Investment" (with S. Fazzari and B.C. Petersen), *Brookings Papers on Economic Activity*, 1988:1: 141-195; Reprinted in Z.J. Acs, ed., *Small Firms and Economic Growth*, Cheltenham, U.K.: Edward Elgar Publishing Ltd., 1995.

"Investment, Financing Decisions, and Tax Policy" (with S. Fazzari and B.C. Petersen), *American Economic Review* 78 (May 1988): 200-205.

"Market Structure and Cyclical Fluctuations in U.S. Manufacturing" (with I. Domowitz and B.C. Petersen), *Review of Economics and Statistics* 70 (February 1988): 55-66.

"Capital Market Imperfections and Tax Policy Analysis in the Life-Cycle Model" (with K. Judd), *Annales d'Economie et de Statistique* 9 (January-March 1988): 111-139.

"Social Security and Individual Welfare: Precautionary Saving, Borrowing Constraints, and the Payroll Tax" (with K. Judd), *American Economic Review* 77 (September 1987): 630-646.

"Oligopoly Supergames: Some Empirical Evidence on Prices and Margins" (with I. Domowitz and B.C. Petersen), *Journal of Industrial Economics* 36 (June 1987): 379-398.

"Uncertain Lifetimes, Pensions, and Individual Saving," in Zvi Bodie, John B. Shoven, and David A. Wise (eds.), *Issues in Pension Economics*, Chicago: University of Chicago Press, 1987, pp. 175-205.

"The Farm Debt Crisis and Public Policy" (with C. Calomiris and J. Stock), *Brookings Papers on Economic Activity*, 1986:2: 441-479.

"Liquidity Constraints, Fiscal Policy, and Consumption" (with K. Judd), *Brookings Papers on Economic Activity*, 1986:1: 1-50.

"Pension Wealth and Individual Saving: Some New Evidence," *Journal of Money, Credit, and Banking* 18 (May 1986): 167-178.

"Supply Shocks and Price Adjustment in the World Oil Market," *Quarterly Journal of Economics* 101 (February 1986): 85-102.

"The Intertemporal Stability of the Concentration-Margins Relationship" (with I. Domowitz and B.C. Petersen), *Journal of Industrial Economics* 35 (September 1986): 13-34.

"Regulation and Long-Term Contracts in U.S. Natural Gas Markets" (with R. Weiner), *Journal of Industrial Economics* 35 (September 1986): 51-71.

"Business Cycles and the Relationship Between Concentration and Price-Cost Margins" (with I. Domowitz and B.C. Petersen), *RAND Journal of Economics* 17 (Spring 1986): 1-17.

"Inventory Optimization in the U.S. Petroleum Industry: Empirical Analysis and Implications for Energy Emergency Policy" (with R. Weiner), *Management Science* 32 (July 1986): 773-790.

"Social Security, Liquidity Constraints, and Pre-Retirement Consumption," *Southern Economic Journal* 51 (October 1985): 471-484.

"Personal Taxation, Pension Wealth, and Portfolio Composition," *Review of Economics and Statistics* 67 (February 1985): 53-60.

"Industry Margins and the Business Cycle: Some New Microeconomic Evidence" (with I. Domowitz and B.C. Petersen), *Economics Letters* 19 (1985): 73-77.

"Oil Supply Shocks and International Policy Coordination" (with R. Weiner), *European Economic Review* 30 (February 1986): 91-106.

"Do IRAs and Keoghs Increase Saving?," *National Tax Journal* 37 (March 1984): 43-54.

The Financial Impacts of Social Security: A Study of Effects on Household Wealth Accumulation and Allocation, in Monograph Series in Finance and Economics, New York University, 1983.

Writings on Public Policy

The Magic Mountain: Is There a Budget Surplus? (with K.A. Hassett), Washington, D.C.: American Enterprise Institute, 1998.

Medical School Financing and Research: Problems and Policy Options, Washington, D.C.: American Enterprise Institute, 1998.

"U.S. Tax Policy and Multinational Corporations: Incentives, Problems, and Directions for Reform," in Dale W. Jorgenson and James M. Poterba, eds., *Borderline Case: International Tax Policy, Corporate Research and Development, and Investment*, Washington, D.C.: National Research Council, 1998.

"Is There a 'Credit Channel' for Monetary Policy?," *Federal Reserve Bank of St. Louis Review* 77 (May/June 1995): 63-77.

"U.S. Tax Policy and Foreign Direct Investment: Incentives, Problems, and Reform," *Tax Policy and Economic Growth*, Washington, DC: American Council for Capital Formation, 1995.

"The Use of 'Distribution Tables' in the Tax Policy Process," *National Tax Journal* 46 (December 1993): 527-537.

"Securities Transactions Taxes: Tax Design, Revenue, and Policy Considerations," *Tax Notes* (November 22, 1993): 985-1000.

"Corporate Tax Integration: A View from the Treasury Department," *Journal of Economic Perspectives* (Winter 1993): 115-132; reprinted in P. Roberti, ed., *Financial Markets and Capital Income Taxation in a Global Economy*, Amsterdam: North-Holland, 1998.

"The President's 1992 Health Care White Paper: An Economic Perspective," *National Tax Journal* 45 (September 1992): 347-356.

"Household Income Changes Over Time: Some Basic Questions and Facts," *Tax Notes* (August 24, 1992).

"Household Income Mobility During the 1980s: A Statistical Assessment Based on Tax Return Data" (with J. Nunns and W. Randolph), *Tax Notes* (June 1, 1992).

"Debt Renegotiation," *Institutional Investor* 24 (June 1990).

"Petroleum Regulation and Public Policy" (with R. Weiner), in Leonard Weiss and Michael Klass (eds.), *Regulatory Reform: What Actually Happened*, Boston: Little, Brown, and Company, 1986.

"Natural Gas: The Regulatory Transition" (with R. Braeutigam), in Leonard Weiss and Michael Klass (eds.), *Regulatory Reform: What Actually Happened*, Boston: Little, Brown, and Company, 1986.

"Natural Gas Contracting in Practice: Evidence from the United States" (with R. Weiner), in Michael Hoel and Bruce Wolman (eds.), *Natural Gas Markets and Contracts, Contributions to Economic Analysis Series*, North-Holland, 1986.

"Contracting and Regulation Under Uncertainty: The Natural Gas Market" (with R. Weiner), in John P. Weyant and Dorothy B. Sheffield (eds.), *The Energy Industries in Transition: 1985-2000*, Boulder: Westview Press, 1985.

"Oil and OECD Economies: Measuring Stockpile Coordination Benefits" (with J. Marquez and R. Weiner), in Mark Baier (ed.), *Energy and Economy: Global Interdependencies*, Bonn: Gesellschaft für Energiewissenschaft und Energiepolitik, 1985.

"Managing the Strategic Petroleum Reserve: Energy Policy in a Market Setting" (with R. Weiner), *Annual Review of Energy* 10 (1985): 339-359.

"Modeling Oil Price Fluctuations and International Stockpile Coordination" (with R. Weiner), *Journal of Policy Modeling* 7 (Summer 1985): 339-359.

"Crude Oil Trading and Price Stability" (with R. Weiner), in William F. Thompson and David J. De Angelo (eds.), *World Energy Markets: Stability or Cyclical Change*, Boulder: Westview Press, 1985.

"Energy Price Shocks, Inflation, and Economic Activity: Simulation Results of the Hubbard-Fry Model", in Bert Hickman and Hillard Huntington (eds.), *Macroeconomic Impact of Oil Supply Shocks: Report of the Energy Modeling Forum VII Project*, 1985.

"Drawing Down the Strategic Petroleum Reserve: The case for Selling Futures Contracts" (with S. Devarajan), in Alvin Alm and Robert Weiner (eds.), *Oil Shock: Policy Response and Implementation*, Cambridge: Ballinger Press, 1983.

"Government Stockpiles in a Multi-Country World: Coordination versus Competition" (with R. Weiner), in Alvin Alm and Robert Weiner (eds.), *Oil Shock: Policy Response and Implementation*, Cambridge: Ballinger Press, 1983.

"The 'Sub-Trigger' Crisis: An Economic Analysis of Flexible Stock Policies" (with R. Weiner), *Energy Economics* 5 (July 1983): 178-189.

"Temporary Tax Reductions as Responses to Oil Shocks," in Alvin Alm and Robert Weiner (eds.), *Oil Shock: Policy Response and Implementation*, Cambridge: Ballinger Press, 1983.

"Policy Analysis with Your Hands Tied: The Case of Disruption Tariff Under Oil Price Controls," in Fred S. Roberts (ed.), *Energy Modeling IV: Planning for Energy Disruptions*, Institute of Gas Technology, 1982.

Comments, Notes, and Reviews

"Comment" on Charles Hadlock, Joel Houston, and Michael Ryngaert, "The Role of Managerial Incentives in Bank Acquisitions," in R. Demsetz and P. Strahan, eds., *Consolidation of the Financial Services Industry*, Federal Reserve Bank of New York, forthcoming.

"Comment" on Joseph Peek and Eric Rosengren, "Bank Lending and the Transmission of Monetary Policy," in Federal Reserve Bank of Boston, *Is Bank Lending Important for the Transmission of Monetary Policy?*, forthcoming.

"Market for Corporate Control" (with D. Palia), in P. Newman, ed., *The New Palgrave Dictionary of Economics and the Law*, London: Macmillan, 1998.

"Introduction," in M. Feldstein, J.R. Hines, and R.G. Hubbard, eds., *Effects of Taxation on Multinational Corporations*, Chicago: University of Chicago Press, 1995.

"Introduction," in M. Feldstein, J.R. Hines, and R.G. Hubbard, eds., *Taxing Multinational Corporations*, Chicago: University of Chicago Press, 1995.

"Investment Under Uncertainty: Keeping One's Options Open," *Journal of Economic Literature* 32 (December 1994): 1794-1807.

"Introduction," in A. Giovannini, R.G. Hubbard, and J. Slemrod, eds., *Studies in International Taxation*, Chicago: University of Chicago Press, 1993.

"Comment" on G. Peter Wilson, "The Role of Taxes in Location and Source Decisions," in A. Giovannini, R.G. Hubbard, and J.B. Slemrod, eds., *Studies in International Taxation*, Chicago: University of Chicago Press, 1993.

"Market Structure and Cyclical Fluctuations in U.S. Manufacturing: Reply" (with I. Domowitz and B.C. Petersen), *Review of Economics and Statistics*, 1993.

"Introduction," in R.G. Hubbard, ed., *Financial Markets and Financial Crises*, Chicago: University of Chicago Press, 1991.

"Introduction," in R.G. Hubbard, ed., *Asymmetric Information, Corporate Finance, and Investment*, Chicago: University of Chicago Press, 1990.

"Comment" on Alberto Giovannini and James R. Hines, Jr., "Capital Flight and Tax Competition: Are There Viable Solutions to Both Problems?," in A. Giovannini and C. Mayer, eds., *European Financial Integration*, London: Centre for Economic Policy Research, 1990.

"Comment" on Roger H. Gordon and Jeffrey K. MacKie-Mason, "Effects of the Tax Reform Act of 1986 on Corporate Financial Policy and Organizational Form," in J.B. Slemrod, ed., *Do Taxes Matter?: Economic Impacts of the Tax Reform Act of 1986*, Cambridge: MIT Press, 1990.

"Comment" on James M. Poterba, "Tax Policy and Corporate Saving," *Brookings Papers on Economic Activity*, 1987:2.

"Comment" on Robert E. Hall, "Market Structure and Macro Fluctuations," *Brookings Papers on Economic Activity*, 1986:2.

"Comment" on Alan S. Blinder and Angus Deaton, "The Time-Series Consumption Function Revisited," *Brookings Papers on Economic Activity*, 1985:2.

"Comment" on Benjamin S. Friedman and Mark Warshawsky, "The Cost of Annuities: Implications for Saving Behavior and Bequests," in Zvi Bodie, John Shoven, and David Wise (eds.), *Pensions in the U.S. Economy*, Chicago: University of Chicago Press, 1987.

"Energy Security: Book Reviews," *Energy Journal* 4 (April 1983).

"When the Oil Spigot is Suddenly Turned Off: Some Further Thoughts" (with R. Weiner), *Journal of Policy Analysis and Management* 2 (Winter 1983).

Submitted Papers and Working Papers

"Taxing Multinationals" (with M. Devereux), Mimeograph, Columbia University, 1998.

"Are There Bank Effects in Borrowers' Costs of Funds?: Evidence from a Matched Sample of Borrowers and Banks." (With K.N. Kuttner and D.N. Palia), Mimeograph, Columbia University, 1998.

"Are Dividend Taxes and Imputation Credits Capitalized in Share Values?" (with T. Harris and D. Kemsley), Mimeograph, Columbia University, 1998.

"Understanding Determinants of Managerial Ownership and the Link Between Ownership and Performance" (with C.P. Himmelberg and D. Palia), Mimeograph, Columbia University, 1998.

"Financing Constraints and Corporate Investment: Response to Kaplan and Zingales," Working Paper No. 5462, National Bureau of Economic Research, February 1996.

"Corporate Payouts and the Tax Price of Corporate Retentions: Evidence from the Undistributed Profits Tax of 1936-37" (with P. Reiss), Working Paper No. 3111, National Bureau of Economic Research, September 1989.

"Market Structure, Durable Goods, and Cyclical Fluctuations in Markups" (with I. Domowitz and B. Petersen), Mimeograph, Northwestern University, 1987.

"Finite Lifetimes, Borrowing Constraints, and Short-Run Fiscal Policy" (with K. Judd), Working Paper No. 2158, National Bureau of Economic Research, 1987.

GRANTS RECEIVED

"Institutional Investors, Boards of Directors, and Corporate Governance," Korn/Ferry, 1997.

"An Economic Analysis of Saving Incentives," Securities Industry Association, 1994, with Jonathan Skinner.

"Securities Transactions Taxes: Tax Design, Revenue, and Policy Considerations," Catalyst Institute, 1993.

"Precautionary Saving in the U.S. Economy," Bradley Foundation, 1989-1990, with Jonathan Skinner and Stephen Zeldes.

"Taxation, Corporate Leverage, and Financial Distress," Garn Institute for Finance, 1989-1990.

"Precautionary Saving in a Dynamic Model of Consumption and Labor Supply," National Science Foundation (Economics Group SES-8707997), 1987-1989, with Jonathan Skinner and Stephen Zeldes.

"Industrial Behavior and the Business Cycle: A Panel Data Study of U.S. Manufacturing," National Science Foundation (Economics Group SES-8420152), 1985-1987, with Ian Domowitz and Bruce Petersen.

"Efficient Contracting and Market Power: Evidence from the U.S. Natural Gas Market," Transportation Center, Northwestern University, Summer 1985.

"Constructing a Panel Data Base for Studies of U.S. Manufacturing," University Research Grants Committee, Northwestern University, 1985-1986.

"Economic Analysis of Multiple-Price Systems: Theory and Application," National Science Foundation (Regulatory Analysis and Policy Group, SES-8408805), 1984-1985.

"Contracting and Price Adjustment in Product Markets," University Research Grants Committee, Northwestern University, 1983-1984.

PAPERS PRESENTED

University Seminars

Bard College, University of Bergamo, Carleton, University of Chicago, Columbia, Emory, George Washington, Georgetown, Harvard, Illinois, Indiana, Johns Hopkins, Laval, University College (London), University of Kentucky, London School of Economics, MIT, University of Maryland, Miami University, University of Michigan, University of Minnesota, New York University, Northwestern, Oxford, University of Pennsylvania, Princeton, University of Rochester, Stanford, University of Texas, Tufts, University of Virginia, University of Wisconsin, Virginia Tech, and Yale.

Conference Papers Presented

American Council for Capital Formation, Washington, DC, June 1994.

American Economic Association, New Orleans, January 1997; San Francisco, January 1996; Washington, D.C., January 1995; Boston, January 1994; Anaheim, January 1993; Washington D.C., December 1990; Atlanta, December 1989; New York, December 1988; Chicago, December 1987; New Orleans, December 1985; Dallas, December 1984.

American Enterprise Institute, Conference Series on Social Insurance Reform, 1997-1998; Conference Series on Fundamental Tax Reform, 1995-1997; Conference on Distributional Analysis of Tax Policies, Washington, D.C., December 1993.

Association of Environmental and Resource Economists, Dallas, December 1984; San Francisco, December 1983.

Association of Public Policy Analysis and Management, New Orleans, October 1984; Philadelphia, October 1983.

Bipartisan Commission on Entitlement and Tax Reform, Washington, DC, June 1994.

Brookings Panel on Economic Activity, September 1994, April 1988, September 1987, September 1986, April 1986, September 1985.

Centre for Economic Policy Research Conference on Capital Taxation and European Integration, London, September 1989.

Conference on International Perspectives on the Macroeconomic and Microeconomic Implications of Financing Constraints, Centre for Economic Policy Research, Bergamo, Italy, October 1994.

Eastern Economic Association, Boston, March 1988; Boston, February 1983.

Econometric Society, New Orleans, January 1997; San Francisco, January 1996; Washington, D.C., January 1995; New Orleans, January 1992; Washington, December 1990; Atlanta, December 1989; New York, December 1988; Chicago, December 1987; New Orleans, December 1986; New York, December 1985; Boston, August 1985; Madrid, September 1984; San Francisco, December 1983; Pisa, August 1983.

Energy Modeling Forum, Stanford University, August 1983; February 1983; August 1982.

European Commission, Conference on Taxation of Financial Instruments, Milan, June 1998.

Federal Reserve Bank of Boston, Annual Economic Conference, North Falmouth, Massachusetts, June 1995.

Federal Reserve Bank of Kansas City Symposium on "Financial Market Volatility--Causes, Consequences, and Policy Responses," Jackson Hole, Wyoming, August 1988.

Federal Reserve Bank of New York, Conference on Consolidation of the Financial Services Industry, New York, March, 1998.

Federal Reserve Bank of St. Louis, Conference on Economic Policy, St. Louis, October 1994.

Hoover Institution, Conference on Fundamental Tax Reform, December 1995.

The Institute of Gas Technology, Washington, DC, May 1982.

The Institute of Management Science/Operations Research Society of America, Orlando, November 1983; Chicago, April 1983.

International Association of Energy Economists, Boston, November 1986; Philadelphia, December 1985; Bonn, June 1985; San Francisco, November 1984; Washington, DC, June 1983; Denver, November 1982; Cambridge (England), June 1982; Houston, November 1981.

International Conference on the Life Cycle Model, Paris, June 1986.

International Institute of Public Finance, Innsbruck, August 1984.

International Seminar on Public Economics, Amsterdam, April 1997.

National Academy of Sciences, February 1997.

National Association of Business Economists, Boston, September 1996; Dallas, September 1992; New Orleans, October 1987.

National Bureau of Economic Research - IMEMO Conference on the American Economy, Moscow, August 1989.

National Bureau of Economic Research Summer Institute, July-August 1998; August 1997; July 1995; July 1994; July 1993; August 1992; July-August 1991; July-August 1990; July-August 1989; July-August 1988; July-August 1987; July-August 1986; July 1985; July 1984; July 1983.

National Bureau of Economic Research Conference on Asymmetric Information, Corporate Finance, and Investment, Cambridge, May 1989.

National Bureau of Economic Research Conference on Financial Crises, Key Biscayne, March 1990.

National Bureau of Economic Research Conference on Government Expenditure Programs, Cambridge, November 1986.

National Bureau of Economic Research Conference on International Taxation, Washington, DC, April 1994; Cambridge, January 1994; New York, September 1991; Nassau, Bahamas, February 1989.

National Bureau of Economic Research Conference on Macroeconomics and Industrial Organization, Cambridge, July 1988; Cambridge, July 1987; Cambridge, July 1986; Chicago, November 1985.

National Bureau of Economic Research Conference on Pensions, Baltimore, March 1985; San Diego, April 1984.

National Bureau of Economic Research Conference on Productivity, March 1988; March 1987.

National Bureau of Economic Research Conference on Public Economics, Cambridge, April 1994, April 1993, November 1991, April 1991, March 1988, November 1987, March 1987.

National Bureau of Economic Research Conference on Tax Policy and the Economy, Washington, DC, November 1996, November 1994, November 1991, November 1989.

National Bureau of Economic Research Trans-Atlantic Public Economics Seminar, Turin, May 1994.

National Tax Association/Tax Institute of America, Arlington, May 1992; Seattle, October 1983.

U.S. House of Representatives, Committee on Ways and Means, Washington, DC, April 1997, June 1996, July 1992.

U.S. Senate Committee on Finance, Washington, DC, February 1997, January 1995, January 1992, December 1981.

ATTACHMENT 2

WILLIAM HERNDON LEHR

Curriculum Vitae

PERSONAL INFORMATION:

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EDUCATION

Ph.D., Economics, Stanford University, 1992.

M.B.A., with distinction, The Wharton School, University of Pennsylvania, 1984.

M.S.E., Chemical Engineering, University of Pennsylvania, 1984.

B.S., Chemical Engineering, *cum laude*, University of Pennsylvania, 1979.

B.A., European History, *magna cum laude*, University of Pennsylvania, 1979.

Academic Honors: Graduate Student Research Award, Telecommunications Policy Research Conference, 1991; Lynde and Harry Bradley Foundation Fellowship, 1990; Stanford Fellowship, 1987

PROFESSIONAL EXPERIENCE

Graduate School of Business, Columbia University (New York, NY), Assistant Professor of Finance and Economics, July 1991 to present.

RAND Corporation (Santa Monica, CA), Graduate Student Intern, Summer 1990.

Economic Analysis Group, Ltd. (Washington, DC), Senior Consultant, 1986-1987.

"Baghdad 2000" Master Development Plan (Baghdad, Iraq), Economist and Systems Analyst, 1985-1986.

M.C.I. Telecommunications (Washington, DC), Manager of Financial Analysis, 1985; Senior Financial Analyst, 1984.

Office of Management and Budget, National Security Division (Washington, DC), Graduate Student Intern, Summer 1983.

Putnam, Hayes and Bartlett (Cambridge, MA), Research Associate 1980-1982.

TEACHING EXPERIENCE

Economics and Strategy in Media Industries, 1993-1995

Economics of Strategic Management, 1993

Managerial Economics, 1991-1995

Theory of the Firm (teaching assistant for Paul Milgrom), 1989

PAPERS and PUBLICATIONS

"Computer Use and Productivity Growth in Federal Government Agencies, 1987 to 1992", with Frank Lichtenberg, National Bureau of Economic Research, Working Paper #5816, June 1996.

"The Political Economy of Congestion Charges in Packet Networks", with Martin Weiss, forthcoming in Telecommunications Policy.

"Compatibility Standards and Interoperability: Lessons from the Internet", in Standards Policy for Information Infrastructure, edited by B. Kahin and J. Abbate, Harvard Information Infrastructure Project, Cambridge MA: MIT Press, 1995.

Quality and Reliability of Telecommunication Infrastructure (editor), Hillsdale, NJ: Lawrence Erlbaum Associates, 1995.

"The Quality of Complex Systems and Industry Structure", with Nicholas Economides, in Quality and Reliability of Telecommunication Infrastructure, edited by William Lehr, Hillsdale, NJ: Lawrence Erlbaum Associates, 1995.

"Compatibility Standards and Industry Competition: Two Case Studies", Economics of Innovation and New Technology.

"Quality Choices in a Network of Networks", forthcoming in *Private Networks and Public Objectives* (Eli Noam, editor), Columbia University.

"ISDN in the U.S.A.: Is it Arriving at Last?", in *ISDN in the USA, Japan, Singapore and Europe*, edited by Bernd Lange, The European Institute for the Media, forthcoming.

"Compatibility Standards and the Internet", working paper, September 1992.

"Standardization: Understanding the Process", Journal of the American Society for Information Science, vol 43, no 6 (September 1992) 550-555.

"Voluntary Standard Setting, Institutions and the Allocation of Technical Capabilities", working paper, July 1992.

"ISDN and the Small User: Regulatory Policy Issues", with Roger Noll, in Integrated Broadband Networks: the Public Policy Issues, edited by Martin Eton, North-Holland, New York, 1991, 147-178.

"Incremental Costs and the Efficient Pricing of Local Exchange Services: A Synopsis of the Incremental Cost Conference", Center for Economic Policy Research Working Paper #175, Stanford University, January 1990.

"Vertical Integration in the Cable Television Industry: the Issue of Content/Carrier

Separation", WD-5100-MF, RAND Corporation, Santa Monica, CA, August 1990.

"ISDN: an Economists' Primer to a New Telecommunications Technology", working paper, February 1989.

WORK in PROGRESS

"Economics of Anticipatory Standard Setting", working draft, presented at the European Association of Research in Industrial Economics (E.A.R.I.E.) Conference, Chania, Crete, September 1994.

"Political Economics of Voluntary Standard Setting", working draft, January 1992.

ATTACHMENT 3

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Notice of Intent to File Section 271)
Application of SBC Communications Inc.,)
Pacific Bell, and Pacific Bell Communications) A. _____
Inc., for provision of In-Region, InterLATA)
Services in California)

AFFIDAVIT OF LEE L. SELWYN, SUSAN M. GATELY, HELEN E. GOLDING
ON BEHALF OF
AT&T COMMUNICATIONS OF CALIFORNIA, INC.

Topic Addressed: Rebuttal of SNET Study
Section 271 Reference: § 271(d)(3)(C)

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Notice of Intent to File Section 271 Application of SBC
Communications Inc., Pacific Bell, and Pacific Bell
Communications Inc., for provision of In-Region,
InterLATA Services in California

A. _____

AFFIDAVIT OF

LEE L. SELWYN
SUSAN M. GATELY
HELEN E. GOLDING

Lee L. Selwyn, Susan M. Gately and Helen E. Golding, of lawfull age, being first duly sworn, depose and say as follows:

1. My name is Lee L. Selwyn. I am President of Economics and Technology, Inc., One Washington Mall, Boston, Massachusetts 02108. My Statement of Qualifications is attached hereto as Appendix 1 and made a part hereof.

2. My name is Susan M. Gately. I am Senior Vice President of Economics and Technology, Inc., One Washington Mall, Boston, Massachusetts 02108. My Statement of Qualifications is attached hereto as Appendix 2 and made a part hereof.

3. My name is Helen E. Golding. I am Vice President of Economics and Technology, Inc., One Washington Mall, Boston, Massachusetts 02108. My Statement of Qualifications is attached hereto as Appendix 3 and made a part hereof.

4. We are the authors of a report entitled *The "Connecticut Experience" with Telecommunications Competition: A Case Study in Getting it Wrong*, a copy of which is annexed hereto and made a part hereof. With the exception of a minor correction that is noted at paragraph 16, footnote 11, below, the statements contained therein are true and correct to the best of our knowledge, information and belief.

5. In a paper prepared for SBC Communications, Inc. and BellSouth Corporation and submitted by Pacific in its NOI filing, Peter Huber contends that SNET's entry into the interLATA long distance market has stimulated competition in Connecticut and that Connecticut residential consumers have saved money as a result.¹ In order to verify Huber's claim, Economics and Technology, Inc (ETI) was asked to undertake an analysis of price levels available to consumers in Connecticut vis-a-vis those offered to consumers in other parts of the US. In our report, *The "Connecticut Experience" with Telecommunications Competition: A Case Study in Getting it Wrong*,² ETI demonstrated that in fact there was no

1. Peter Huber, *Local Exchange Competition under the 1996 Telecom Act: Red-Lining the Local Residential Consumer* (November 4, 1997) ("Huber paper").

2. Selwyn, Lee L. et al, *The "Connecticut Experience" with Telecommunications Competition: A Case Study in Getting it Wrong*, Economics and Technology, Inc. (February, 1998).

empirical evidence that customers in Connecticut had been "enriched" in the manner claimed by Huber. ETI examined prices for local service, intraLATA toll service, and interLATA service offered and available to customers by SNET and by the three major interexchange carriers, AT&T, MCI and Sprint. The empirical analysis revealed the following, none of which Huber's most recent treatise have disproved:

6. Lower local service prices would be an expected outcome of the stimulated local service competition that Huber has claimed to have developed in Connecticut. However, ETI determined that SNET's local service prices are generally no lower, and in some cases are actually higher, than the local service prices available to residential customers in other states in the US in which the dominant local telephone company has *not* been permitted to offer interLATA long distance services. Huber has failed to disprove ETI's original finding that local service prices in Connecticut are not lower than comparable prices in other states.

7. Huber claims that the increased level of *long distance* competition resulting from SNET's entry has produced lower long distance prices in Connecticut than in other states. In fact, interLATA toll prices available to residential customers in Connecticut from the major long distance providers (including SNET) are no lower than prices offered to residential subscribers around the country.³ Huber has failed to disprove this fact.

3. Huber contends that ETI has "misread" his paper by challenging whether Connecticut consumers have saved \$40 million in cuts in intraLATA toll rates, because his contention was that "SNET's lower *interLATA* rates had enriched Connecticut consumers by \$40 million a year." Peter Huber, *Telecommunications in Connecticut: A Case Study in Getting it Right* (March, 1998) ("Huber response"), at iv. Huber is wrong. Our point, in both our original

8. While ETI's study determined that there is no consequential difference between interLATA prices offered by SNET and by IXC's in Connecticut than elsewhere in the country, *intra*LATA toll prices in Connecticut have declined substantially in recent years. As ETI's report concludes, however, this is at least as likely the result of the implementation of intraLATA 1+ "equal access" presubscription in Connecticut as it is of SNET's entry into the interLATA market. Moreover, the ETI report demonstrates that the intraLATA toll prices available to customers in Connecticut are no lower than corresponding intraLATA prices in most of the country, and certainly are not the lowest. Connecticut prices are in fact higher than those available in a number of states where the ILEC has not been allowed into the interLATA toll market. Nothing in Huber's most recent response to the ETI study disproves this fact.

9. It is important to emphasize that Huber's response does not offer substantive *facts* that demonstrate any of ETI's factual findings to have been incorrect. Rather, Huber tries to discredit ETI's conclusions by mischaracterizing and misconstruing ETI's analysis, setting up his own "straw man" and then unsuccessfully attempting to knock it down! As the

paper, and in this response, is that SNET's interLATA rates are generally no better than those offered by other IXC's, and SNET's interLATA entry therefore has afforded Connecticut consumers no special "enrichment." Further, in light of our demonstration that long distance prices in Connecticut are not materially different than in other states, Huber's denial that he has merged interLATA and intraLATA rates in calculating the putative benefits to Connecticut consumers caused by SNET's entry, simply demonstrates that there is absolutely no basis for his conclusion that SNET's interLATA entry is saving Connecticut consumers \$40 million a year.

point by point response below illustrates, Huber is shooting from the hip, and he is shooting blanks.⁴

10. Finally, despite Huber's claims of stimulation of competition in Connecticut, a full four years after SNET received approval of its request for authority provide interLATA service,⁵ local competition appears to be no further along in Connecticut than in many other states. If Huber's thesis (that long distance entry creates increased competition overall) is correct, one would expect the penetration of local service competitors into SNET's local service market in Connecticut to be consequentially greater than anything being experienced in the serving areas of RBOCs that have not been allowed to enter interLATA markets. However, according to a survey recently completed for the FCC and filed by SNET, as of January 31, 1998 physical collocation of competitors (both wireline and wireless) has only occurred in 6 out of SNET's 125 wire centers in the state (i.e., less than 5%).⁶ This means that in 119 of SNET's wire centers *no competing wireline carrier is providing service to end users over unbundled loops or switching facilities*. Only 14,700 of

4. Time constraints prevent us from addressing all of the flaws and distortions in Huber's response. We choose instead to focus upon the most blatant.

5. Decision, *Application of SNET America, Inc. for a Certificate of Public Convenience and Necessity*, Docket No. 93-08-06 (Conn. DPUC, April 13, 1994).

6. This data, and the specific units discussed throughout this and the following paragraph are all taken from the individual ILEC responses to the survey identified in the FCC Public Notice regarding responses to the Common Carrier Bureau Survey on the State of Local Competition, FCC web site, March 27, 1998:
www.fcc.gov/ccb/local_competition/survey/responses.